



SEQUENCE LISTING

LOCUS AY792511 7584 bp mRNA linear PRI 15-NOV-2004
DEFINITION Homo sapiens leucine-rich repeat kinase 2 (LRRK2) mRNA, complete cds.
ACCESSION AY792511
VERSION AY792511.1 GI:55740397
KEYWORDS
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE 1 (bases 1 to 7584)
AUTHORS Zimprich,A., Biskup,S., Leitner,P., Lichtner,P., Farrer,M., Lincoln,S., Kachergus,J., Hulihan,M., Uitti,R.J., Calne,D.B., Stoessl,J., Pfeiffer,R.F., Patenge,N., Carballo,I., Vieregge,P., Asmus,F., Mueller-Myhsok,B., Meitinger,T., Strom,T.M., Wszolek,Z. and Gasser,T.
TITLE Mutations in LRRK2 Cause Autosomal-Dominant Parkinsonism with Pleomorphic Pathology
JOURNAL Neuron 44 (4), 601-607 (2004)
PUBMED 15541309
REFERENCE 2 (bases 1 to 7584)
AUTHORS Zimprich,A., Biskup,S. and Strom,T.M.
TITLE Direct Submission
JOURNAL Submitted (22-OCT-2004) Institute of Human Genetics, Technical University and GSF Research Center, Ingolstaedter Landstr. 1, Muenchen/Neuherberg 85764, Germany
FEATURES Location/Qualifiers
source 1..7584
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/chromosome="12"
/map="12q12"
/tissue_type="brain"
/dev_stage="adult"
gene 1..7584
/gene="LRRK2"
CDS 1..7584
/gene="LRRK2"
/codon_start=1
/product="leucine-rich repeat kinase 2"
/protein_id="AAV63975.1"
/db_xref="GI:55740398"

SEQUENCE NO 1

/translation="MASGSCQGCEEDEETLKKLIVRLNNVQEGKQIETLVQILEDLLV
FTYSEHASKLFGQKNIHVPLLIIVLDSYMRVASVQQVGWSLLCKLIEVCPGTMQSLMGP
QDVGNDEVLGVHQLILKMLTVHNASVNLVSVIGLKTLDLLLTSGKITLLILDEESDIF
MLIFDAMHSFPANDEVQKLGCALHVLFEVSEEQLTEFVENKDYMILLSASTNFKDE
EEIVLHVLHCLHSLAIPCNNVEVLMSGNVRCYNIVVEAMKAFPMSERIQEVSCCLLHR
LTLGNFFNIIVLNEVHEFVVKAVQQYPENAALQISALSCLALLTETIFLNQDLEEKNE
NQENDDEGEEDKLFWLEACYKALTWHRKNKHVQEAACWALNNLLMYQNSLHEKIGDED
GHFPAHREVMLSMLMHSSSKEVFQASANALSTLLEQNVNFRKILLSKGIHLNVLELMQ

KHIHSPEVAESGCKMLNHLFECSNTSLDIMA AVVPKILTVMKRHETSLPVQLEALRAI
LHFIVPGMPEESREDTEFHKKLNMVKKQCFKNDIHKLVLAALNRFIGNPGIQKCGLKV
ISSIVHFPDALEMLSLEGAMDSVLHTLQMYPDQEIQCLGLSLIGYLITKKNVFIGTG
HLLAKILVSSLYRFKDVAEIQTGKFQTLAILKLSASFSLLVHHSFDLVIHQMSNN
IMEQKDQQFLNLCCCKCFKAVMDDYLKNVMLERACDQNNSIMVECLLLL GADANQAKE
GSSLICQVCEKESSPKLVELLLNNGSREQDVRKALTISIGKGSQIIISLLRLRALDV
ANNSICLGGFCIGKVEPSWLGPLFPDKTSNLRKQTNIASTLARMVIRYQMKSAVEEGT
ASGSDGNFSEDVLSKFDWTFIPDSSMDSVFAQSDDLSEGESEGSFLVKKKSNSISVG
EFYRDAVLQRCSPNLQRHSNSLGPIFDHEDLLKRKRKILSSDDSLRSSKLQSHMRHSD
SISSLASEREYITSLDLSANELRDIDALSQKCCISVHLEHLEKLELHQNALTSFPQQL
CETLSKSLTHLDLHNSKFTSFPSYLLKMSCIANLDVSRNDIGPSVLDPTVKCPTLKQF
NLSYNQLSFVPENLTDVVEKLEQLILEGNKISGICSPRLKELKILNLSKNHISLSE
NFLEACP KVESFSARMNFLAAMPFLPPSMTILKLSQNKFSCEPAILNPLHLRSLDMS
SNDIQYLPGPAHWKSLNLRLLFSHNQISILDSEKAYLWSRVEKLHLSHNKLKEIPP
EIGCLENLTSLDVSYNLELRSFPNEMGKLSKIWDLPLDELHLNFDKFKHIGCKAKDIIR
FLQQRLLKAVPYNRMKLMIVGNTGSGKTTLLQQLMKTKKSDLGMSATVGDVVDWPI
QIRDKRKRDLVLNVWDFAGREEFYSTHPHMTQALYLAVYDL SKGQAEVDAMKPWLF
NIKARASSSPVILVGTHLDVSEKQKACMSKITKELLNKRGFPAIRDYHFVNATEES
DALAKLRKTIINESLNFKIRDLVVGQLIPDCYVELEKIIILSERKNVPIEFVVIDRKR
LLQLVRENQLQLDENELPHAVHFLNESGVLLHFDQDPALQLSDLYFVEPKWLCKIMAQI
LTVKVEGCPKHPKGIISRRDVEKFLSKKRKFPKNYMSQYFKLLEKFQIALPIGEEYLL
VPSSLSDRPVIELPHCENSEIIIRLYEMPYFPMGFWSRLINRLLEISPYMLSGRERA
LRPNRMYWRQGIYLNWSPEAYCLVGSEVLNHPESFLKITVPSCKRGCILLGQVVDHI
DSLMEWFPGLEIDI CGEGETLLKKWALYSFNDGEEHQKILLDDLMKKAEEGDLLVN
PDQPRLTIPISQIAPDLILADLPRNIMLNDELEFEQAPFLLGDGSFGSVYRAAYEG
EEVAVKIFNKHTSLRLLRQELVVLCHLHHPSLISLLAAGIRPRMLVMELASKGSLDRL
LQODKASLTRTLQHRIALHVADGLRYLHSAMIYRDLKPHNVLLFTLYPNAAI IAKIA
DYXIAQYCCRMGIKTSEGTGPFRAPEVARGNVIYNQADVYSFGLLLYDILTTGGRIV
EGLKFPNEFDELEIQGKLDPVKEYGCAPWPMVEKLIKQCLKENPQERPTSAQVFDIL
NSAELVCLTRRILLPKNVIVECMVATHHNSRNASIWLGCGHTDRGQLSFLDLNTEGYT
SEEVADSRILCLALVHLPVEKESWIVSGTQSGTLLVINTEDGKKRHTLEKMTDSVTCL
YCNSFSKQSKQKNFLLVGTADGKLAI FEDKTVKLKGAAPLKILNIGNVSTPLMCLSES
TNSTERNVMWGGCGTKIFSFSDFTIQKLIETRSTQLFSYAAFSDSNIITVVVD TALY
IAKQNSPVVEVWDKTEKLCGLIDCVHFLREVMVKENKESKHKMSYSGRVKTLCLQKN
TALWIGTGGGHILLDLSTRRLIRVIYNFCNSVRVMMTAQLGSLKNVMLVLGYNRKNT
EGTQKQKEIQSCLTVWDINLPHEVQNLKHEVRKELAEKMRRTSVE"

misc_difference 149

	/gene="LRRK2"
	/note="compared to genome assembly"
	/replace="g"
variation	3364
	/gene="LRRK2"
	/note="I1122V"
	/phenotype="PARK8"
	/replace="g"
variation	4321
	/gene="LRRK2"
	/note="R1441C"
	/phenotype="PARK8"
	/replace="t"
variation	5096
	/gene="LRRK2"
	/note="Y1699C"
	/phenotype="PARK8"
	/replace="g"
variation	5457
	/gene="LRRK2"

```

        /note="nonsynonymous SNP"
        /replace="t"
.variation 6055
        /gene="LRRK2"
        /note="G2019S"
        /phenotype="PARK8"
        /replace="g"

```

SEQUENCE NO 2

```

1 atggctagtgcagctgtcaggggtgcgaaggaggacgaggaaactctgaa gaagttgata
61 gtcaggctgaacaatgtcca ggaaggaaaa cagatagaaa cgctgggtcca aatcctggag
121 gatctgctggtgttcacgta ctccgagcac gcctccaagt tatttcaagg caaaaatatac
181 catgtgcctc tgttgatcgt cttggactcc tatatgagag tcgcgagtggt gcagcaggtg
241 gggtgggtcac ttctgtgcaa attaatagaa gtctgtccag gtacaatgca aagcttaatg
301 ggaccccagg atgttggaaa tgattgggaa gtccctgggtg ttcaccaatt gattcttaaa
361 atgctaacag ttcataatgc cagtgtaaac ttgtcagtga ttggactgaa gaccttagat
421 ctctctctaa cttcaggtaa aatcaccttg ctgatactgg atgaagaaag tgatattttc
481 atgttaattt ttgatgccat gcaactcatt ccagccaatg atgaagtcca gaaacttgga
541 tgcaaagctt tacatgtgct gtttgagaga gtctcagagg agcaactgac tgaatttggt
601 gagaacaaag attatatgat attgttaagt gcgtcaacaa attttaaaga tgaagaggaa
661 attgtgcttc atgtgctgca ttgtttacat tccctagcga ttccttgcaa taatgtggaa
721 gtcctcatga gtggcaatgt cagggtgttat aatattgtgg tggagagctat gaaagcattc
781 cctatgagtg aaagaattca agaagtgagt tgctgtttgc tccataggct tacattaggt
841 aattttttca atatcctggg attaaacgaa gtccatgagt ttgtggtgaa agctgtgcag
901 cagtaccag agaatgcagc attgcagatc tcagcgctca gctgtttggc cctcctcact
961 gagactattt tcttaaatca agatttagag gaaaagaatg agaatcaaga gaatgatgat
1021 gagggggaag aagataaatt gttttggctg gaagcctgtt acaaagcatt aacgtggcat
1081 agaaagaaca agcacgtgca ggaggccgca tgctgggcac taaataatct ccttatgtac
1141 caaacaggtt tacatgagaa gattggagat gaagatggcc atttccagc tcatagggaa
1201 gtgatgctct ccatgctgat gcattcttca tcaaaggaag tttccaggc atctgcgaat
1261 gcattgtcaa ctctcttaga acaaaatggt aatttcagaa aaatactgtt atcaaaagga
1321 atacacctga atgttttgga gttaatgcag aagcatatac attctcctga agtggctgaa
1381 agtggctgta aaatgctaaa tcatcttttt gaaggaagca acacttccct ggatataatg
1441 gcagcagtggt tccccaaaat actaacagtt atgaaacgtc atgagacatc attaccagtg
1501 cagctggagg cgcttcgagc tattttacat tttatagtgc ctggcatgcc agaagaatcc
1561 agggaggata cagaatttca tcataagcta aatatggtta aaaaacagtg tttcaagaat
1621 gatattcaca aactggtcct agcagctttg aacaggttca ttggaaatcc tgggattcag
1681 aaatgtggat taaaagtaat ttcttctatt gtacattttc ctgatgcatt agagatgtta
1741 tccctggaag gtgctatgga ttcagtgcct cacacactgc agatgtatcc agatgacca
1801 gaaattcagt gtctgggttt aagtcctata ggatacttga ttacaaagaa gaatgtgttc
1861 ataggaactg gacatctgct ggcaaaaatt ctgggtttcca gcttataccg atttaaggat
1921 gttgctgaaa tacagactaa aggatttcag acaatcttag caatcctcaa attgtcagca
1981 tctttttcta agctgctggg gcatcattca tttgaactag taatattcca tcaaagtct
2041 tccaatatca tggacaacaa ggatcaacag tttctaaacc tctgttgcaa gtgttttgca
2101 aaagtagcta tggatgatta cttaaaaaat gtgatgctag agagagcgtg tgatcagaat
2161 aacagcatca tggttgaatg cttgcttcta ttgggagcag atgccaatca agcaaaggag
2221 ggatcttctt taatttgtca ggtatgtgag aaagagagca gtcccaaatt ggtggaactc
2281 ttactgaata gtggatctcg tgaacaagat gtacgaaaag cgttgacgat aagcattggg
2341 aaaggtgaca gccagatcat cagcttgctc ttaaggaggc tggccctgga tgtggccaac
2401 aatagcattt gccttggagg attttgtata ggaaaagttg aaccttcttg gcttggtcct
2461 ttatttccag ataagacttc taatttaagg aaacaaacaa atatagcatc tacactagca
2521 agaatggtga tcagatatca gatgaaaagt gctgtggaag aaggaacagc ctcaggcagc
2581 gatggaaatt tttctgaaga tgtgctgtct aaatttgatg aatggacctt tattcctgac
2641 tcttctatgg acagtgtgtt tgctcaaagt gatgacctgg atagtgaagg aagtgaaggc
2701 tcatttcttg tgaaaaagaa atctaattca attagtgtag gagaatttta ccgagatgcc
2761 gtattacagc gttgctcacc aaatttgcaa agacattcca attccttggg gccattttt
2821 gatcatgaag atttactgaa gcgaaaaaga aaaatactat cttcagatga ttcactcagg

```

2881 tcatacaaaac ttcaatccca tatgaggcat tcagacagca tttcttctct ggcttctgag
2941 agagaatata ttacatcact agacctttca gcaaatgaac taagagatat tgaatgccta
3001 agccagaaat gctgtataag tgttcatttg gagcatcttg aaaagctgga gcttcaccag
3061 aatgcactca cgagctttcc acaacagcta tgtgaaactc tgaagagttt gacacatttg
3121 gacttgacaca gtaataaatt tacatcattt ccttcttatt tgttgaaaat gagttgtatt
3181 gctaactcttg atgtctctcg aaatgacatt ggacctcag tggttttaga tcctacagtg
3241 aaatgtccaa ctctgaaaca gtttaacctg tcatataacc agctgtcttt tgtacctgag
3301 aacctcactg atgtggtaga gaaactggag cagctcattt tagaaggaaa taaaatatca
3361 gggatatgct ccccttgag actgaaggaa ctgaagattt taaaccttag taagaaccac
3421 atttcatccc tatcagagaa ctttcttgag gcttgtccta aagtggagag tttcagtgcc
3481 agaataaatt ttcttgctgc tatgcctttc ttgcctcctt ctatgacaat cctaaaatta
3541 tctcagaaca aattttcctg tattccagaa gcaattttta atcttccaca cttgcggtct
3601 ttagatatga gcagcaatga tattcagtag ctaccagggt ccgcacactg gaaatctttg
3661 aacttaagggt aactcttatt tagccataat cagatcagca tcttggactt gagtgaaaaa
3721 gcatatttat ggtctagagt agagaaactg catctttctc acaataaact gaaagagatt
3781 cctcctgaga ttggctgtct tgaaaatctg acatctctgg atgtcagtta caacttggaa
3841 ctaagatcct ttcccaatga aatggggaaa ttaagcaaaa tatgggatct tcctttggat
3901 gaactgcac ttaactttga ttttaaacat ataggatgta aagccaaaga catcataagg
3961 tttcttcaac agcgattaaa aaaggctgtg ccttataacc gaatgaaact tatgattgtg
4021 ggaaatactg ggagtggtaa aaccacctta ttgcagcaat taatgaaaac caagaaatca
4081 gatcttggaa tgcaaatgct cacagttggc atagatgtga aagactggcc tatccaaata
4141 agagacaaaa gaaagagaga tctcgtccta aatgtgtggg attttgcagg tctgagggaa
4201 ttctatatga ctcatcccca ttttatgacg cagcgagcat tgtaccttgc tgtctatgac
4261 ctacagcaagg gacaggctga agttgatgcc atgaagcctt ggctcttcaa tataaaggct
4321 cgcgcttctt cttcccctgt gattctcgtt ggacacacatt tggatgtttc tgatgagaag
4381 caacgcaaa cctgcatgag taaaatcacc aaggaaactc tgaataagcg agggttccct
4441 gccatacgag attaccactt tgtgaatgcc accgaggaat ctgatgcttt ggcaaaactt
4501 cggaaaacca tcataaacga gagccttaat ttcaagatcc gagatcagct tgttgttggg
4561 cagctgattc cagactgcta tgtagaactt gaaaaaatca ttttatcgga gcgtaaaaat
4621 gtgccaatgt aatttcccgt aattgaccgg aaacgattat tacaactagt gagagaaaat
4681 cagctgcagt tagatgaaaa tgagcttctt cacgcagttc actttctaaa tgaatcagga
4741 gtcttcttct attttcaaga cccagcactg cagttaagtg acttgtactt tgtggaaccc
4801 aagtggcttt gtaaaatcat ggcacagatt ttgacagtga aagtggaaagg ttgtccaaaa
4861 caccctaagg gcattatttc gcgtagagat gtggaaaaat ttctttcaaa aaaaaggaaa
4921 tttccaaaga actacatgtc acagtatttt aagctcctag aaaaattcca gattgctttg
4981 ccaataggag aagaatattt gctggttcca agcagtttgt ctgaccacag gcctgtgata
5041 gagcttcccc attgtgagaa ctctgaaatt atcatccgac tatatgaaat gccttatttt
5101 ccaatgggat tttggtcaag attaatacat cgattacttg agatttcacc ttacatgctt
5161 tcaggagag aacgagcact tcgcccacaa agaattgtatt ggcgacaagg catttactta
5221 aattggtctc ctgaagctta ttgctgggta ggatctgaag tcttagacaa tcatccagag
5281 agtttcttaa aaattacagt tcttcttgtt agaaaaggct gtattctttt gggccaagtt
5341 gtggaccaca ttgattctct catggaagaa tggtttctct ggttgtctgga gattgatatt
5401 tgtggtgaag gagaaactct gttgaagaaa tgggcattat atagttttta tgatggcgaa
5461 gaacatcaaa aaatcttact tgatgacttg atgaagaaag cagaggaagg agatctctta
5521 gtaaatccag atcaaccaag gctcaccatt ccaatatctc agattgcccc tgacttgatt
5581 ttggtgacc tgcctagaaa tattatgttg aataatgatg agttggaatt tgaacaagct
5641 ccagagtttc tctaggtga tggcagtttt ggatcagttt accgagcagc ctatgaagga
5701 gaagaagtgg ctgtgaagat ttttaataaa catacatcac tcaggctgtt aagacaagag
5761 cttgtggtgc tttgccacct ccaccacccc agtttgatat ctttgcgtggc agctgggatt
5821 cgtccccgga tgttggtgat ggagtttagcc tccaagggtt ccttggatcg cctgcttcag
5881 caggacaaag ccagcctcac tagaacctta cagcacagga ttgcaactca cgtagctgat
5941 ggtttgagat acctccactc agccatgatt atataccgag acctgaaacc ccacaatgtg
6001 ctgcttttca cactgtatcc caatgctgcc atcattgcaa agattgctga ctacXgcatt
6061 gctcagtact gctgtagaat ggggataaaa acatcagagg gcacaccagg gtttcgtgca
6121 cctgaagtgt ccagaggaaa tgtcatttat aaccaacagg ctgatgttta ttcatgttgt
6181 ttactactct atgacatttt gacaactgga ggtagaatag tagagggttt gaagtttcca
6241 aatgagtttg atgaattaga aatacaagga aaattacctg atccagttta agaatatggt

6301 tgtgccccat ggcctatggt tgagaaatta attaaacagt gtttgaaaga aaatcctcaa
 6361 gaaaggccta cttctgcccc ggtctttgac attttgaatt cagctgaatt agtctgtctg
 6421 acgagacgca ttttattacc taaaaacgta attggtgaat gcatgggtgc tacacatcac
 6481 aacagcagga atgcaagcat ttggctgggc tgtgggcaca ccgacagagg acagctctca
 6541 tttcttgact taaatactga aggatacact tctgaggaag ttgctgatag tagaatattg
 6601 tgcttagcct tgggtgcatct tcctgttgaa aaggaaagct ggattgtgtc tgggacacag
 6661 tctgggtactc tcctgggtcat caataccgaa gatgggaaaa agagacatac cctagaaaag
 6721 atgactgatt ctgtcacttg tttgtattgc aattcctttt ccaagcaaag caaacaaaaa
 6781 aattttcttt tgggttgaac cgctgatggc aagttagcaa tttttgaaga taagactggt
 6841 aagcttaaag gagctgctcc tttgaagata cttaaataag gaaatgtcag tactccattg
 6901 atgtgtttga gtgaatccac aaattcaacg gaaagaaatg taatgtgggg aggatgtggc
 6961 acaaagattt tctccttttc taatgatttc accattcaga aactcattga gacaagaaca
 7021 agccaactgt tttcttatgc agctttcagt gattccaaca tcataacagt ggtggtagac
 7081 actgctctct atattgctaa gcaaaatagc cctgttgtgg aagtgtggga taagaaaact
 7141 gaaaaactct gtggactaat agactgctg cactttttta gggaggtaat ggtaaaagaa
 7201 aacaaggaat caaaacacaa aatgtcttat tctgggagag tgaaaaccct ctgccttcag
 7261 aagaacactg ctctttggat aggaactgga ggaggccata ttttactcct ggatctttca
 7321 actcgtcgac ttatacgtgt aatttacaac ttttgtaatt cggtcagagt catgatgaca
 7381 gcacagctag gaagccttaa aaatgtcatg ctggtattgg gctacaaccg gaaaaatact
 7441 gaaggtacac aaaagcagaa agagatacaa tcttgcttga ccgtttggga catcaatctt
 7501 ccacatgaag tgcaaaattt agaaaaacac attgaagtga gaaaagaatt agctgaaaaa
 7561 atgagacgaa catctgttga gtaa

//